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# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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November 8, 2006

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TO: Internal File

THRU: Wayne H. Western, Environmental Scientist III *WHW*

FROM: Priscilla Burton, CPSSc, Environmental Scientist III *PWBryan*

RE: 1st North Federal Lease Boundary Addition, CONSOL Energy Company, Emery Deep Mine, C/015/0015, Task ID #2646

### SUMMARY:

On December 15, 2006 an amendment to include full extraction within the federal Incidental Boundary Change (IBC) was received. The IBC area encompasses approximately 160 acres of federal coal lease U50044 located on privately held surface (D.U. Company) in the Sec. 22, T. 22 S., R. 6 E., SLBM: SW1/4NW1/4, NW1/4SW1/4, NE1/4SW1/4, and SE1/4SE1/4.

This land has private ownership and will be undermined in 2007 and 2008, requiring prior landowner notification. Secondary extraction of pillars will be conducted, with the potential for subsidence.

The Permittee considers twelve surface acres of the IBC to be irrigated, prime farmland. The NRCS records indicate that approximately 48 acres of land within the federal IBC are irrigated. The Division is consulting with the NRCS concerning the prime farmland status of the lands within the federal First North IBC. Several deficiencies identified in this memo should be corrected prior to approval of the amendment.

**The Division's CHIA should consider the effect of undermining on irrigated prime farmlands and farmlands of statewide importance.**

[Note: A previous IBC in April 2005 added 348 acres to the northeast of the permit area in T. 22 S., R. 6 E., SLBM as follows: Sec 22: NE1/4, SE1/4, SE1/4NW1/4 (19 acres owned by Christiansen), Sec 23: W1/2 SW1/4, Sec 27: NE1/4.]

**TECHNICAL MEMO**

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**TECHNICAL ANALYSIS:**

**ENVIRONMENTAL RESOURCE INFORMATION**

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

**SOILS RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

**Analysis:**

Soils information is provided on an Order III level for the 160-acre IBC area in Figure XIII-1 and Appendix XIII-1. The source of this information must be indicated on the map. Soils of the Ravola Loam and Penoyer Loam type were previously identified as prime farmland soils when irrigated (Appendix XII-1). The NRCS estimated that the productivity of the irrigated pasture on Penoyer soil was from 12 – 15 AUM and productivity of an alfalfa crop on Penoyer soil was from 5 to 6 Tons/acre.

Within this IBC, there are 2 acres of Penoyer Loam and 10 acres of Ravola Loam that are irrigated. With full extraction, subsidence is planned and ground movement will be monitored (Chap. V, pg 27).

**Findings:**

The information provided does not meet the requirements of the Rules for prime farmland soils. Please provide the following information, in accordance with:

**R645-301-132**, The Permittee must indicate the source of the information for Figure XIII-1 on the figure.

**R645-302-314.400**, For the purposes of providing baseline information, the Permittee must provide a summary of the productivity and crops grown on the irrigated acres within the First North federal IBC.

**PRIME FARMLAND**

Regulatory Reference: 30 CFR 785.16, 823; R645-301-221, -302-270.

**Analysis:**

The IBC area is shown as Prime Farmland in Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties. 1981. Utah Ag Exp Sta Res Rpt No. 76. The Permittee states that within this IBC, there are 2 acres of Penoyer Loam and 10 acres of Ravola Loam that are irrigated. Communication with the NRCS leads the Division to the conclusion that there are approximately forty-eight irrigated acres within the First North federal IBC.

Previous communication with the NRCS confirms the designation of Penoyer soils as prime farmland. (See App XII-1). The Division will consult with the NRCS concerning the prime farmland status of irrigated Ravola soil during this review period.

Although Section V. B. 1 states that subsidence is not planned, full extraction makes subsidence likely. Ground movement will be monitored (Sec V.B.1). The application should provide a summary of the crops grown on the irrigated lands and the average productivity of the prime farmland lands outlined in Figure XIII-1.

**Findings:**

Previous consultation with the NRCS found that irrigated Ravola soil within the 160-acre IBC are prime farmland, but surface disturbance is not expected. Division consultation with the NRCS concerning the prime farmland status irrigated lands within the federal IBC is in process.

## **GEOLOGIC RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

**Analysis:**

Section III.C.5 of the application and section V.A.4 of the MRP should be updated with recent roof and floor analyses.

**Findings:**

**R645-301-624.300**, Section III.C.5 of the application and section V.A.4 of the MRP must be updated with recent roof and floor analyses conducted during the past years exploration drilling.

## **RECLAMATION PLAN**

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TECHNICAL MEMO

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## TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

### Analysis:

#### Redistribution

No additional surface disturbance. No changes to the TA.

### Findings:

The Permittee has previously met the requirements for topsoil and subsoil replacement during reclamation.

## REQUIREMENTS FOR PERMITS FOR SPECIAL CATEGORIES OF MINING

### PRIME FARMLAND

Regulatory Reference: 30 CFR Sec. 785.16, 823; R645-301-221, -302-300 et seq.

### Analysis:

#### Prime Farmland Application Contents.

No subsidence is anticipated. No further information is required.

#### Consultation with Secretary of Agriculture.

Division consultation with the NRCS concerning the prime farmland status irrigated lands within the federal IBC is in process.

#### Revegetation and Restoration of Soil Productivity

### Findings:

There will be no surface disturbance to the prime farmland. The Permittee is in compliance.

## **CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)**

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

### **Analysis:**

However, the IBC area is shown as Prime Farmland in Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties. 1981. Utah Ag Exp Sta Res Rpt No. 76. Consequently the PHC must consider the effect of undermining on irrigated prime farmlands.

### **Findings:**

The information provided does not meet the informational requirements for the Division to accurately assess the Cumulative Hydrologic Impact of mining beneath prime farmlands, as noted in the above deficiencies.

### **RECOMMENDATIONS:**

160 acres of private ground owned by D.U. Company, is shown in Sec 22, SE1/4NW1/4 (Plate I-1 Surface Ownership Map). This land is leased and irrigated. It will be undermined in 2006 and 2007 and the Permittee must make notification to the surface owner six months prior to mining, as per plan.

The NRCS previously determined that irrigated Penoyer soils are prime farmland. The Permittee states that this status only applies to 2 acres in this IBC, but facts on file with the NRCS lead the Division to ask for more information from the Permittee on irrigated acres. The Division is consulting with the NRCS concerning the prime farmland status of the Ravola soil acreage.

A deficiency concerning identification of acid/toxic materials was identified and should be addressed before approval.